



Effect of nutrition counseling on patients suffering from coronary heart diseases

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ABSTRACT : In the new millennium, coronary heart disease (CHD) is looming large as the new epidemic afflicting Indians. Epidemiological transition with increasing life expectancy and demographic shifts in population age-profile, combined with life style and increase in the levels of cardio-vascular risk factors is accelerating the CHD epidemic in India. The present study was undertaken with the specific objectives, viz., To find out the complications of coronary heart patients, to assess the knowledge and attitudinal change towards the disease and to find out the risk factors and study the effect of nutritional counselling regarding coronary heart disease. The data were collected from both Cardiology and Medicine Department of M.K.C.G. Medical College and Hospital, Berhampur of Ganjam district. A total of 30 both male and female coronary heart disease patients as samples had been selected from various age groups, sex, socio-economic status and income groups. After the collection of data it was carefully edited, systematically classified, tabulated and presented through tables. It is observed that in-adequate diet, busy schedule of work and ignorance of nutrient aspects of diet are the main cause of this disease.

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Good health is a major resource and an important dimension of the quality of life. But now-a-day changes in life style and dietary pattern steaming from rapid modernization have favoured an increase in the occurrence of non-communicable yet chronic and degenerative diet related diseases among which cardio-vascular diseases occupy a primary place.

Heart disease, also known as cardio-vascular disease (CVD), is a general term for a variety of conditions that affect the heart and blood vessels. It is a chronic disease that

can lead to heart attack and even death. Heart disease is the second leading cause of death in Canada and the first worldwide.

Counselling is an art and fledging science which educated the patient. Thus, counselling is nothing but patient education. Coronary heart disease counselling plays a crucial role in treatment of CHD. For patient with a chronic disease, counselling is a life-long process and an opportunity to improve self-care techniques. CHD counselling incorporates discipline into their life style rather than permitting this condition to overwhelm them and control their lives.

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Counselling improves well being and quality of life, self care management, metabolic control, enhances the prevention of early detection of complication decrease cost of care. Since last 20 years the role and effectiveness of education for CHD may be provided in variety of settings such as hospitals, diet counselling centre, gym, clinics and physician offices. CHD counselling already encompasses the family and social support.

According to Park (2011) has drawn attention to the fact that CHD is a modern “Epidemic” *i.e.* a disease that affect populations not an unavoidable attitude of ageing. It is cause of 25-30 per cent of death in most industrialized countries. “Epidemics” of CHD began at different times in different countries. In United States, epidemic began in the early 1920, in Britain in the 1930, in several European countries and lowest in Japan.

Cardio-vascular diseases (CVD) have been leading cause of morbidity and mortality in India. Recent trends indicate that the disease has escalated to younger age groups also. It has a significant presence in males and females in both urban and rural population¹. The prevalence of its associated risk factors has been found to exist increasingly in the population. With such a fast pace of increasing incidence, a number of epidemiological studies have been carried out in India to trace the prevalence of CVD over time. Some of them have forecasted the future incidence and prevalence of CVD in India. To formulate this review article, original articles in various national and international journals were searched through web. Only those studies which were conducted post 2000 were included. Key words such as “prevalence”, “coronary heart disease”, “cardio-vascular disease”, “heart disease”, “in India”, “risk factors” etc. were used to find articles. This article tries to embody the data collected so far by approximately 10-15 studies fulfilling the reference criteria. This article stands as an effort to develop an overview of the prevalence of CVD over the last decade as observed and quantified by different studies conducted on Indian population.

Coronary heart disease (CHD) is the leading cause of death in India and the leading cause of death worldwide. Previously thought to affect primarily high-income countries, CHD now leads to more death and disability in low- and middle-income countries, such as India, with rates that are increasing disproportionately compared to high-income countries. CHD affects people at younger ages in low- and middle-income countries, compared to

high-income countries, thereby having a greater economic impact on low- and middle-income countries. Effective screening, evaluation and management strategies for CHD are well established in high-income countries, but these strategies have not been fully implemented in India.

Some behaviour patterns also make the person prone to coronary heart disease and other diseases. Eating a heavy diet rich in saturated fats, sucrose and a high intake of salt, multiply the problems of obesity and hypertension. A sedentary lifestyle with minimum physical activity adds to the already worse situation.

Thirty samples both male and female were taken from the Cardiology and Medicine Department of M.K.C.G. Medical College and hospital, Berhampur of Ganjam district. All newly diagnosed patients of stable/unstable angina and myocardial infarction admitted in the cardiology and medicine department during the study period were selected.

In this study both interview and questionnaire method was used for data collection. In Interview method the investigation gathers data directly from others in face to face contact. In questionnaire method the investigation gathers data by using a form which the respondent fills by themselves. But basically the interview method was used for get more relevant data will collect data. The data were collected on the basis of the general information like age, education, occupation, income, religion, family type and food habits. In medical history like family history of CHD or any associated disease like diabetes, hypertension, angina, unstable angina or myocardial infarction etc. Data on lifestyle pattern like tobacco chewing, physical activity, stress and some dietary information.

There are some risk factors which is more responsible for heart disease. There are two types of risk factors one is Traditional risk factors and another is non-traditional risk factors. Among traditional risk factors age (Menopause), Diabetes, smoking, hypertension, dyslipidemia, obesity/lack of exercise and pre mature family history etc. Abnormal ankle brachial index, chronic inflammation, homocysteine, microproteinuria albumin/ creatinine, metabolic syndrome, left ventricular hypertrophy, renal disease etc. are under non-traditional risk factors.

Table 1 highlights the economic status of the family. A sedentary life style and low cardio respiratory fitness are each associated with a two fold or more increase in CHD risk. Food rich in fat, salt and sugar, as well as



food containing alcohol, increases the risk of atherosclerosis and can cause high blood pressure. 33.3 per cent patients had economic status high, among them 53.3 per cent patients came from middle income groups and 13.3 per cent patients had low economic status (Borbora *et al.*, 2008; Dhar *et al.*, 2012; Logue *et al.*, 2011 and Nayak, 2013).

Table 2 represents the information about the preliminary symptoms of the patients. 43.3 per cent of the patients suffered from Breathlessness, 63.3 per cent patients knew it from chest pain, among them 10 per cent felt from weakness, 3.3 per cent are suffered from cold fever and 16.6 per cent patients had some other reasons (Gupta *et al.*, 2009; Jarrett *et al.*, 1999; Kannel, 1997 and Pereira *et al.*, 2004).

Table 3 observed the cause of the disease which is more responsible for heart patients. Cigarette smoking enhances endothelial damage, increases heart rate and blood pressure, lowers high-density lipoprotein cholesterol, increases LDL, constricts blood vessels and promotes thrombus formation. There is reduction of cardio-vascular risk of those who quit smoking after a myocardial infarction compared with those who continue to smoke. Individuals who consume moderate amounts

of alcohol (one to three drinks per day) have a 40 per cent to 50 per cent lower rate of CHD than those who abstain. People who abstain should not be advised to begin consuming alcohol to prevent CHD due to associated risks. Among of them 33.3 per cent patients suffered because of strain, 13.3 per cent suffered from smoking, 10 per cent patients suffered due to take alcohol, 26.6 per cent suffered because of faulty eating habits and lastly 20 per cent suffered from other disease.

Table 4 reflects the stress levels of the patients. Stress has been related to the development of CHD in many studies. Stress denotes the external or environmental factors to which people are exposed, as well as the behavioural or biological reaction to it. 26.6 per cent patients are calm and relaxed, 23.3 per cent of them had familial stress, 16.6 per cent patients had professional stress and 33.3 per cent patients had both family and professional stress (Khogare and Kolgane, 2012; Luc *et al.*, 2002; Schaefer *et al.*, 1994 and Srilakshmi, 2011).

Table 5 shows distribution of subjects according to their activity pattern. Among them 23.3 per cent patients walking regularly, 33.3 per cent patients are cycling regularly and 43.3 per cent patients are doing meditation or yoga everyday.

Table 1: Economic status of the patients

| Sr. No. | Income | Respondent no. | Percentage |
|---------|---------------|----------------|------------|
| 1. | High income | 10 | 33.3% |
| 2. | Middle income | 16 | 53.3% |
| 3. | Low income | 4 | 13.3% |

Table 2: Preliminary symptoms

| Sr. No. | Symptoms | Respondent no. | Percentage |
|---------|----------------|----------------|------------|
| 1. | Breathlessness | 13 | 43.3% |
| 2. | Chest pain | 19 | 63.3% |
| 3. | Weakness | 3 | 10% |
| 4. | Cold fever | 1 | 3.3% |
| 5. | Others | 5 | 16.6% |

Table 3 : Causes of the disease

| Sr. No | Causes | Respondent no. | Percentage |
|--------|----------------------|----------------|------------|
| 1. | Strain | 10 | 33.3% |
| 2. | Heavy smoking | 4 | 13.3% |
| 3. | Drinking alcohol | 3 | 10% |
| 4. | Faulty eating habits | 8 | 26.6% |
| 5. | Any other | 6 | 20% |

Table 6 response the diseases those are associated with heart problem. Hypertension and blood glucose can lead to angiosclerosis and damage to tunica intima. Nicotine and carbon monoxide increase the heart rate, lower the oxygen level in heart muscles and can cause thrombosis. 6.6 per cent patients suffer from diabetes, among of them 33.3 per cent patients known that they have hypertension, 3.3 per cent suffer from peptic ulcer, 46.6 per cent patients have Asthma and 20 per cent patients have other diseases.

In this study it is concluded that cardiac disorder is cured through drugs, exercise, hormone replacement therapy and diet management. It can also be cured through reducing weight and stress. The researcher has gain experience about the patients diet pattern, which is inadequate to their conditions and the health problem, can be solved by providing counselling to the patients with specific therapeutic diet guidance.

The Heart Foundation (Australia) recommends that by visiting the general practitioner for a regular health check can also reduce the risk. The blood sugar and blood cholesterol are checked on a regular basis. Regular check-up allows problems to be identified early. The general practitioners will monitor and provide advice in the areas

of blood pressure, blood cholesterol, nutrition, physical inactivity, over weight and obesity.

Carbohydrates intake should be minimal, on the other hand complex carbohydrates and resistance starch which are less likely to cause lipidemia are desirable such as those found in whole grain wheat flour, legumes etc. consumption of dietary fibre through leafy vegetables, raw unpeeled fruits is also advised since fibre has shown a beneficial effect on the blood lipid profile.

Certain minerals such as copper, zinc, hardness of water, electrolytes like sodium, may also be involved in the cause and prevention of cardiac diseases but concluding evidence is found to be looking. In India, foods such as garlic are stated to have medicinal properties in lowering blood cholesterol. However, they have not yet been definitely proved as a cure.

Hence, a diet with, moderate intake of calories, carbohydrates and modified fat with a liberal intake of proteins and moderately restricted sodium is advised. Supplementation with minerals and vitamins may not be necessary if large qualities of fruit and raw vegetables are eaten which furnish adequate of minerals, vitamins and fibre. Similar deLorgeril (1994); Freedman *et al.* (2008); Hu and Willet (2002) and Lichtman *et al.* (2008)

| Table 4 : Distribution of subjects according to stress levels | | | |
|---|-------------------------------------|----------------|------------|
| Sr. No. | Stress levels | Respondent no. | Percentage |
| 1. | Calm and relaxed | 8 | 26.6% |
| 2. | Familial stress | 7 | 23.3% |
| 3. | Professional stress | 5 | 16.6% |
| 4. | Both family and professional stress | 10 | 33.3% |

| Table 5 : Activity pattern of the patient | | | |
|---|--------------------|----------------|------------|
| Sr. No. | Type of exercise | Respondent no. | Percentage |
| 1. | Walking | 7 | 23.3% |
| 2. | Cycling | 10 | 33.3% |
| 3. | Meditation or yoga | 13 | 43.3% |

| Table 6 : Disease associated with cardiac disorders | | | |
|---|--------------|----------------|------------|
| Sr. No. | Particulars | Respondent no. | Percentage |
| 1. | Diabetes | 2 | 6.6% |
| 2. | Hypertension | 10 | 33.3% |
| 3. | Peptic ulcer | 1 | 3.3% |
| 4. | Asthma | 14 | 46.6% |
| 5. | Any other | 6 | 20% |

also worked on the related topic.

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